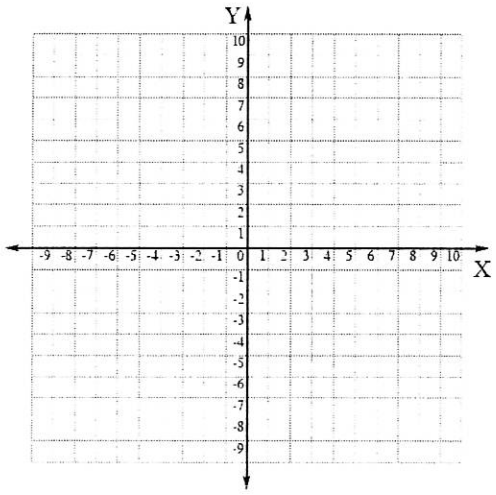
Algebra 2 Name_____

Quadratic Functions WS

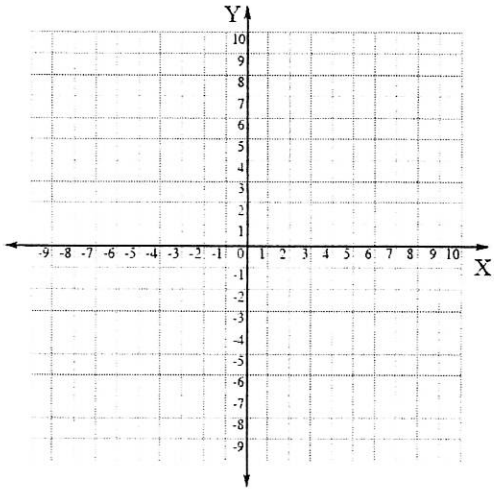
E.P.

Graph each quadratic function. Indicate whether the parabola opens up or down. Find the equation of the axis of symmetry and the coordinates of the vertex. Also, tell whether the vertex is a maximum or minimum point.

1) $y = x^2 + 1$



2) $y = -2x^2 + 3$



For each quadratic function, indicate whether the parabola opens up or down; and find the equation of the axis of symmetry, and the coordinates of the vertex. Do not graph the function.

3) $y = 5x^2$

4) $y = -x^2 + 3$

Determine which of the three functions has the narrowest graph. Do not graph the functions.

5) $y = x^2, y = 4x^2, y = \frac{1}{4}x^2$

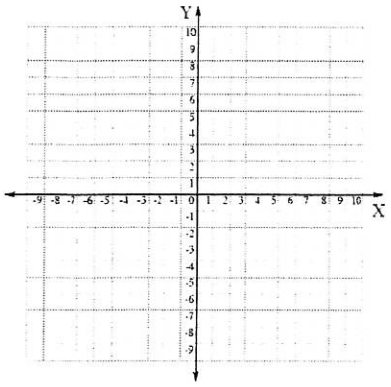
6) $y = -x^2, y = -3x^2, y = -\frac{1}{3}x^2$

Algebra 2
Quadratic Functions WS

Name_____

For each function, give the equation of the axis of symmetry, the coordinates of the vertex, and the x- and y-intercepts. Sketch the graph of the function.

1) $y = x^2 + 2x$



For each function, give the equation of the axis of symmetry, the coordinates of the vertex, and the x- and y-intercepts.

2) $y = x^2 + 4x$	3) $y = -x^2 + 6x$
4) $y = 2x^2 + 7x + 3$	5) $y = 3x^2 - x - 2$

Determine whether each function has a maximum or minimum value. Then find that value.

6) $y = -x^2 + 4x + 4$	7) $y = 3x^2 - 5x - 2$
8) $y = -3x^2 - 2x + 5$	9) $y = 3 - x^2$